

# Mineral Industry Surveys

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## PRECIOUS METALS IN MAY 2002

U.S. mines produced 23,900 kilograms (kg) of gold and 123,000 kg of silver in May 2002. Compared with April 2002, production of gold was down 12% in California and 12% in Nevada, and production of silver was up 20% in Nevada.

### Gold

**Domestic.**—Newmont Mining Corp. offered others the opportunity to use a large amount of exploration data generated over its 80-year history, plus similar data from companies acquired by Newmont. The data are presented in maps, drilling and mapping reports, and geophysical, geochemical, and geologic databases. About 4,000 boxes of information have been made available by the company. The information covers prospects in 206 regions and countries and primarily concerns gold, but also covers platinum-group metals, base metals, and diamonds (Mining Journal, 2002).

**International.**—Gold demand fell as buyers saw a sharp price rise for gold in the first quarter of 2002, according to the World Gold Council. Demand for gold dropped to 750,000 kg (24.1 million troy ounces), 10% lower than in the first quarter of 2001, which had set a new first quarter record. Global gold jewelry sales decreased about 15% to 624,000 kg (20.1 million ounces) compared with the first quarter of 2001, which also set a new record for the first quarter. In contrast, investment demand in Japan was boosted fourfold by financial uncertainties to 126,000 kg (4.1 million ounces)—36% higher than in the first quarter of 2001 (Platts Metals Week, 2002b).

Researchers involved in the AuTek project initiated by several gold producers announced their first prototype commercial product, an air purification unit. The prototype strips carbon monoxide from air at room temperatures using super-active gold-based catalysts. Such a unit could be used in

public facilities such as restaurants, hospitals, hotels, and office buildings. Each commercial air purifier would contain only a few hundred milligrams of gold, but the overall potential market could be tens of millions of units, accounting for significant gold consumption. The AuTek research initiative was launched in June 2000 by Mintek Gold Fields, AngloGold Ltd., and Harmony Gold Mining Company Ltd. (American Metal Market, 2002b).

Harmony Gold Mining was unable to resolve a strike at its Randfontein gold mine in South Africa. About 5,000 workers walked out over living-out allowances and stopped gold production. Harmony hopes that resumption of production later in the year will offset losses due to the work stoppage (Platts Metals Week, 2002f).

China aims to produce 182,000 kg (5.85 million ounces) of gold in 2002. This is the same gold output reached in 2001, up 4% from the 175,000 kg (5.63 million ounces) of gold produced in 2000. Chinese gold reserves were about 500,000 kg (16.1 million ounces) by yearend 2001. In 2001, China's gold consumption increased 3% to 213,000 kg (6.85 million ounces), ranking China as the world's fourth largest gold user (Antaike Precious & Minor Metals Monthly, 2002).

Placer Dome Inc.'s bid for the recently formed Australian gold producer AurionGold Ltd. was rejected. The offer represented a 30% premium over AurionGold's closing price on the last business day before the announcement was made (May 24). Since Placer's announcement, AurionGold consistently traded above the offer's implied value. The proposed consolidation would have ranked Placer Dome as the world's fifth largest gold producer. In addition to Placer Dome, AngloGold Ltd., Gold Fields Ltd., Barrick Gold Corp., and Newmont Corp. reportedly may be potential suitors of

Aurion Gold (American Metal Market, 2002a; Platts Metals Week, 2002a).

### **Silver**

Silver prices rose above \$5 per troy ounce on May 31 for the first time in more than 2 years. The rise was attributed to the strength in gold prices that triggered fund buying of precious metals. The close above \$5 sets the stage for further gains, but a sustained rally is still in question (Platts Metals Week, 2002d).

The total supply of silver available to the world market rose 3.1% to 23.2 million kg (746.4 million ounces) in 2001, but the supply could decrease in 2002 for the first time since 1993 according to Johnson Matthew plc. Mine production of silver increased 2.7% to 15.6 million kg (592.8 million ounces) in 2001, but is expected to decrease in 2002. Secondary silver supply rebounded from the 2000 decline, rising 2% to 6.3 million kg (203.6 million ounces) in 2001. The increase in secondary supply mainly came from a rise in scrap from India. In 2002, world secondary silver supply also is expected to fall.

The world silver market was in deficit in 2001 for the 12th consecutive year, with newly refined supplies falling short of industrial demand by 2.6 million kg (83.8 million ounces). In 2002, the net deficit in silver bullion is expected to expand once more. Industrial demand for silver fell 4.7% to 25.8 million kg (830.2 million ounces) in 2001. Demand by the photographic industry fell 25%; usage in electronics and batteries fell 9%, and demand for miscellaneous uses dropped 14.8%. Fabrication demand for silver is expected to rebound 3.7% in 2002 (Platts Metals Week, 2002e).

### **Platinum-Group Metals**

Platinum prices should remain firm because of increasing demand from the automotive industry. In 2001, platinum demand reached records levels of 191,000 kg (6.15 million ounces), with the automotive sector and Chinese jewelry usage accounting for most of the increase. The use of platinum in catalytic converters rose by one-third. Industrial demand rose 2% in 2001, to 47,300 kg (1.52 million ounces), where increases in platinum use in the glass, petroleum, and dental sectors more than offset a decline in the use of platinum in

computer applications. Investment in platinum reached 2,500 kg (80,000 ounces), as the sale of American Eagle platinum coins and the demand for investment bars rose in Japan. The physical platinum market produced a deficit of 9,020 kg (290,000 ounces) between supply and demand in 2001.

In 2001, jewelry consumption fell 10% worldwide to 79,000 kg (2.55 million ounces) mainly because of a 26% decline in U.S. jewelry use and a 33% fall in consumption in Japan, where sales reflected a weak domestic economy. These declines outweighed an 18% consumption increase in China (Platts Metals Week, 2002c).

Palladium had a supply surplus of 18,350 kg (590,000 ounces) in 2001, rather than the deficit the market has experienced in recent years. The slump in use by the electronics industry, which fell 67% to 21,800 kg (700,000 ounces) of palladium, exacerbated the decline in overall demand as manufacturers used up stockpiles. In 2001, the demand in the automotive industry fell, for the first time since 1988, by 10% to 159,000 kg (5.11 million ounces) (Platts Metals Week, 2002c).

### **References Cited**

- American Metal Market, 2002a, AurionGold tells shareholders not to act on Placer Dome bid: American Metal Market, v. 110, no. 70-4, May 31, p. 7.
- American Metal Market, 2002b, Seeking wider uses for gold, AuTek touts novel air purifier: American Metal Market, v. 110, no. 69-3, May 22, p. 3.
- Antaike Precious & Minor Metals Monthly, 2002, China targets 180 t of gold output for 2002: Antaike Precious & Minor Metals Monthly, no. 28, May, p. 4.
- Mining Journal, 2002, Newmont offers historical data: Mining Journal, v. 338, no. 8683, May 3, p. 316.
- Platts Metals Week, 2002a, AurionGold rejects Placer Dome's offer: Platts Metals Week, v. 73, no. 26, July 1, p. 8.
- Platts Metals Week, 2002b, Gold demand falls 10%; investment up in Japan: Platts Metals Week, v. 73, no. 20, May 20, p. 12.
- Platts Metals Week, 2002c, Platinum to range \$480-580/oz in 2002—JM: Platts Metals Week, v. 73, no. 19, May 13, p. 14.
- Platts Metals Week, 2002d, Silver rallies to two-year high: Platts Metals Week, v. 73, no. 22, June 3, p. 9.
- Platts Metals Week, 2002e, Silver supply rose 3.1% to 746.4 million oz in 2001—CPM: Platts Metals Week, v. 73, no. 18, May 6, p. 12.
- Platts Metals Week, 2002f, Talks won't stop Harmony strike—NUM: Platts Metals Week, v. 73, no. 21, May 27, p. 6.

TABLE 1  
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

| Gold                | Alaska  | California | Nevada     | Other States 2/ | Total      |
|---------------------|---------|------------|------------|-----------------|------------|
| 2001:               |         |            |            |                 |            |
| May                 | 1,290   | 857        | 21,200 r/  | 4,620           | 27,900 r/  |
| June                | 1,240   | 1,270      | 22,600 r/  | 4,720           | 29,800 r/  |
| July                | W       | 1,070      | 20,500 r/  | 5,610 r/        | 27,200 r/  |
| August              | 1,370   | 784        | 21,600 r/  | 3,420 r/        | 27,100 r/  |
| September           | W       | 699        | 20,700 r/  | 5,000 r/        | 26,400 r/  |
| October             | W       | 746        | 21,100 r/  | 7,920 r/        | 29,800 r/  |
| November            | W       | 793        | 20,800 r/  | 4,810 r/        | 26,400 r/  |
| December            | W       | 871        | 24,100 r/  | 4,820 r/        | 29,800 r/  |
| January-December p/ | 9,190   | 12,100 r/  | 257,000 r/ | 57,300 r/       | 335,000 r/ |
| 2002:               |         |            |            |                 |            |
| January             | W       | 954        | 17,000     | 4,270 r/        | 22,200 r/  |
| February            | W       | 797        | 16,800     | 3,990 r/        | 21,600 r/  |
| March               | W       | 1,000      | 18,600     | 4,430 r/        | 24,000 r/  |
| April               | W       | 893 r/     | 21,900 r/  | 4,100 r/        | 26,900 r/  |
| May                 | W       | 788        | 19,200     | 3,870           | 23,900     |
| January-May         | W       | 4,430      | 93,400     | 20,700          | 119,000    |
| Silver              | Arizona | Idaho      | Nevada     | Other States 3/ | Total      |
| 2001:               |         |            |            |                 |            |
| May                 | W       | W          | 50,900     | 94,700          | 146,000    |
| June                | W       | W          | 60,400     | 92,400          | 153,000    |
| July                | W       | W          | 43,700     | 87,600          | 131,000    |
| August              | W       | W          | 49,300     | 87,500          | 137,000    |
| September           | W       | W          | 48,200     | 72,400          | 121,000    |
| October             | W       | W          | 36,500     | 79,200          | 116,000    |
| November            | W       | W          | 45,200     | 74,400          | 120,000    |
| December            | W       | W          | 54,400     | 89,100          | 144,000    |
| January-December p/ | W       | 40,600     | 555,000    | 1,010,000       | 1,600,000  |
| 2002:               |         |            |            |                 |            |
| January             | W       | W          | 37,300     | 85,500 r/       | 123,000 r/ |
| February            | W       | W          | 47,600     | 78,200 r/       | 126,000 r/ |
| March               | W       | W          | 48,000     | 89,600 r/       | 138,000 r/ |
| April               | W       | W          | 29,800 r/  | 82,400 r/       | 112,000    |
| May                 | W       | W          | 35,700     | 87,200          | 123,000    |
| January-May         | W       | W          | 198,000    | 423,000         | 621,000    |

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Other States."

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes Arizona, Colorado, Idaho, Montana, New Mexico, South Carolina, South Dakota, Utah, Washington, and State indicated by symbol W.

3/ Includes Alaska, California, Colorado, Missouri, Montana, New Mexico, New York, South Carolina, South Dakota, Tennessee, Utah, Washington, and States indicated by symbol W.

TABLE 2  
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

|                              | Gold                | Silver           | Platinum                 | Palladium           |
|------------------------------|---------------------|------------------|--------------------------|---------------------|
| <u>Engelhard Industries:</u> |                     |                  |                          |                     |
| 2001:                        |                     |                  |                          |                     |
| Low/date                     | 257.04 April 2      | 4.05 November 26 | 419.00 November 7        | 319.00 November 13  |
| High/date                    | 294.40 September 17 | 4.87 January 30  | 645.00 January 10 and 15 | 1,100.00 January 26 |
| Average                      | 272.22              | 4.39             | 533.31                   | 610.61              |
| 2002:                        |                     |                  |                          |                     |
| March:                       |                     |                  |                          |                     |
| Low/date                     | 290.29/8            | 4.51/7 and 11    | 509.00/7                 | 365.00/5 and 6      |
| High/date                    | 302.56/28           | 4.72/28          | 526.00/11                | 395.00/26           |
| Average                      | 295.21              | 4.56             | 514.65                   | 377.48              |
| April:                       |                     |                  |                          |                     |
| Low/date                     | 298.91/16           | 4.46/16          | 525.00/1                 | 361.00/30           |
| High/date                    | 310.88/29           | 4.72/1 and 3     | 561.00/18                | 396.00/1            |
| Average                      | 303.84              | 4.60             | 542.09                   | 372.50              |
| May:                         |                     |                  |                          |                     |
| Low/date                     | 308.77/2            | 4.55/2           | 522.00/2                 | 350.00/31           |
| High/date                    | 328.26/29           | 5.08/31          | 551.00/30                | 385.00/16           |
| Average                      | 315.28              | 4.74             | 536.91                   | 360.00              |
| Year to date:                |                     |                  |                          |                     |
| Low/date                     | 278.62 January 29   | 4.26 January 31  | 454.00 February 1        | 350.00 May 31       |
| High/date                    | 328.26 May 29       | 5.08 May 31      | 561.00 April 18          | 439.00 January 3    |
| Average                      | 298.69              | 4.57             | 508.57                   | 379.99              |
| <u>Handy and Harman:</u>     |                     |                  |                          |                     |
| 2001, Average                |                     |                  |                          |                     |
|                              | 271.06              | 4.39             | XX                       | XX                  |
| 2002:                        |                     |                  |                          |                     |
| March                        | 294.06              | 4.56             | XX                       | XX                  |
| April                        | 302.68              | 4.61             | XX                       | XX                  |
| May                          | 314.08              | 4.74             | XX                       | XX                  |
| Average year to date         | 297.54              | 4.57             | XX                       | XX                  |
| <u>London Final: 1/</u>      |                     |                  |                          |                     |
| 2001, Average                |                     |                  |                          |                     |
|                              | 270.99              | 4.37             | XX                       | XX                  |
| 2002:                        |                     |                  |                          |                     |
| March                        | 294.06              | 4.53             | XX                       | XX                  |
| April                        | 302.68              | 4.57             | XX                       | XX                  |
| May                          | 314.49              | 4.71             | XX                       | XX                  |
| Average year to date         | 297.65              | 4.54             | XX                       | XX                  |

XX Not applicable.

1/ Silver price reported as "London Spot/US Equiv."

Source: Platts Metals Week.

TABLE 3  
U.S. IMPORTS AND EXPORTS OF GOLD 1/

(Kilograms of gold content, unless otherwise specified)

| Period and country              | Ores and concentrates 2/ | Doré and precipitates | Refined bullion 3/ | Ash and residues | Total 4/ | Waste and scrap (gross weight) | Metal powder (gross weight) | Gold compounds (gross weight) |
|---------------------------------|--------------------------|-----------------------|--------------------|------------------|----------|--------------------------------|-----------------------------|-------------------------------|
| <b>Imports for consumption:</b> |                          |                       |                    |                  |          |                                |                             |                               |
| 2001                            | 1,260                    | 31,100                | 161,000            | 193              | 194,000  | 26,400                         | 9,450                       | 1,960                         |
| <b>2002:</b>                    |                          |                       |                    |                  |          |                                |                             |                               |
| February                        | 2                        | 2,220                 | 11,700             | --               | 13,900   | 444                            | 2,430                       | 57                            |
| March                           | 9                        | 1,980                 | 13,400             | --               | 15,300   | 449                            | 1,850                       | 19                            |
| <b>April:</b>                   |                          |                       |                    |                  |          |                                |                             |                               |
| Brazil                          | --                       | --                    | 2,660              | --               | 2,660    | --                             | --                          | --                            |
| Canada                          | 275                      | (5/)                  | 13,200             | --               | 13,500   | 135                            | 6                           | --                            |
| Chile                           | --                       | --                    | 400                | --               | 400      | --                             | --                          | --                            |
| Colombia                        | --                       | 264                   | 169                | --               | 433      | --                             | 79                          | --                            |
| Dominican Republic              | --                       | --                    | --                 | --               | --       | 299                            | --                          | --                            |
| Honduras                        | --                       | 498                   | --                 | --               | 498      | --                             | 265                         | --                            |
| Mexico                          | --                       | 105                   | 1,140              | --               | 1,250    | 106                            | --                          | --                            |
| Nicaragua                       | --                       | 279                   | --                 | --               | 279      | --                             | --                          | --                            |
| Panama                          | --                       | 17                    | 3                  | --               | 20       | 147                            | --                          | --                            |
| Peru                            | --                       | 1,190                 | --                 | --               | 1,190    | (5/)                           | --                          | --                            |
| Other                           | --                       | 79                    | 137                | --               | 216      | 119                            | 3                           | 44 6/                         |
| Total                           | 275                      | 2,430                 | 17,800             | --               | 20,500   | 808                            | 355                         | 44                            |
| Year to date                    | 285                      | 9,060                 | 53,000             | --               | 62,300   | 4,090                          | 5,920                       | 172                           |
| <b>Exports:</b>                 |                          |                       |                    |                  |          |                                |                             |                               |
| 2001                            | 361                      | 93,900                | 395,000            | --               | 489,000  | 40,100                         | 11,600                      | 492,000                       |
| <b>2002:</b>                    |                          |                       |                    |                  |          |                                |                             |                               |
| February                        | 51                       | 5,380                 | 11,800             | --               | 17,200   | 868                            | 1,700                       | 18,400                        |
| March                           | 117                      | 4,250                 | 15,600             | --               | 20,000   | 701                            | 1,310                       | 3,670                         |
| <b>April:</b>                   |                          |                       |                    |                  |          |                                |                             |                               |
| Cambodia                        | --                       | --                    | --                 | --               | --       | --                             | --                          | 1,590 6/                      |
| Canada                          | --                       | 39                    | 52                 | --               | 91       | 506                            | --                          | 7,820 6/                      |
| China                           | --                       | --                    | --                 | --               | --       | --                             | --                          | 19,400 6/                     |
| Colombia                        | --                       | --                    | --                 | --               | --       | --                             | --                          | 13,300 6/                     |
| Dominican Republic              | 38                       | --                    | --                 | --               | 38       | --                             | --                          | 25 6/                         |
| France                          | --                       | --                    | --                 | --               | --       | --                             | 4                           | --                            |
| Germany                         | --                       | --                    | --                 | --               | --       | 52                             | 1 6/                        | --                            |
| Israel                          | --                       | --                    | --                 | --               | --       | --                             | --                          | 9,060 6/                      |
| Korea, Republic of              | --                       | --                    | 1,520              | --               | 1,520    | --                             | --                          | --                            |
| Mexico                          | --                       | --                    | 684                | --               | 684      | --                             | 961                         | --                            |
| Peru                            | --                       | --                    | 183                | --               | 183      | --                             | 59                          | --                            |
| Singapore                       | --                       | --                    | --                 | --               | --       | --                             | 1                           | --                            |
| Switzerland                     | --                       | 8,600                 | 3,990              | --               | 12,600   | --                             | 641                         | --                            |
| Taiwan                          | --                       | --                    | 22                 | --               | 22       | --                             | 1                           | --                            |
| United Kingdom                  | --                       | --                    | 3,360              | --               | 3,360    | 612                            | 19                          | 259 6/                        |
| Other                           | --                       | --                    | 106                | --               | 106      | 119                            | (5/)                        | 66 6/                         |
| Total                           | 38                       | 8,640                 | 9,920              | --               | 18,600   | 1,290                          | 1,690                       | 51,500                        |
| Year to date                    | 212                      | 18,300                | 55,000             | --               | 73,500   | 3,650                          | 6,220                       | 94,200                        |

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap," "Metal powder," and "Gold compounds" not included in "Total."

5/ Less than 1/2 unit.

6/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 4  
U.S. IMPORTS FOR CONSUMPTION OF SILVER 1/

(Kilograms of silver content, unless otherwise specified)

| Period and country | Bullion    | Doré    | Ores and concentrates 2/ | Ash and residues | Total     | Other unwrought silver (gross weight) | Metal powder (gross weight) | Silver nitrate (gross weight) | Semimanufactured form 3/ (gross weight) | Waste and scrap (gross weight) |
|--------------------|------------|---------|--------------------------|------------------|-----------|---------------------------------------|-----------------------------|-------------------------------|---|--------------------------------|
| 2001               | 2,940,000  | 151,000 | 7,550                    | 38,000           | 3,130,000 | 249,000                               | 24,200                      | 26,000                        | 153,000                                 | 1,110,000                      |
| 2002:              |            |         |                          |                  |           |                                       |                             |                               |   |                                |
| February           | 260,000    | 721     | 623                      | 7,830            | 269,000   | 14,000                                | 23                          | --                            | 26,600                                  | 30,300 r/                      |
| March              | 326,000    | --      | --                       | 7,760            | 326,000   | 17,500                                | 2,460                       | --                            | 18,400                                  | 35,000 r/                      |
| April:             |            |         |                          |                  |           |                                       |                             |                               |   |                                |
| Argentina          | --         | --      | --                       | 327              | 327       | --                                    | --                          | --                            | --                                      | --                             |
| Australia          | --         | --      | --                       | 329              | 329       | --                                    | --                          | --                            | --                                      | 116                            |
| Brazil             | --         | --      | --                       | --               | --        | --                                    | --                          | --                            | 14,100                                  | 173                            |
| Canada             | 185,000 4/ | --      | 182 4/                   | 261              | 186,000   | 413                                   | --                          | --                            | 4,650                                   | 7,160                          |
| Chile              | 10,000     | --      | --                       | --               | 10,000    | --                                    | --                          | --                            | --                                      | --                             |
| Dominican Republic | --         | --      | --                       | 65               | 65        | --                                    | --                          | --                            | --                                      | 338                            |
| France             | --         | --      | --                       | --               | --        | --                                    | --                          | --                            | 340                                     | --                             |
| Germany            | 2,440      | --      | --                       | --               | 2,440     | --                                    | --                          | 18 4/                         | 2,230                                   | 21,800                         |
| India              | --         | --      | --                       | (5/)             | (5/)      | --                                    | --                          | --                            | 129 4/                                  | --                             |
| Italy              | --         | --      | --                       | --               | --        | 14 4/                                 | --                          | --                            | 207 4/                                  | 3                              |
| Japan              | --         | --      | --                       | 1                | 1         | --                                    | 93 4/                       | --                            | 138 4/                                  | 4                              |
| Korea, Republic of | --         | --      | --                       | (5/)             | (5/)      | --                                    | --                          | --                            | 809                                     | 3                              |
| Mexico             | 207,000    | --      | --                       | 2,070            | 209,000   | 10,000                                | --                          | --                            | 27                                      | 7,570                          |
| Panama             | --         | --      | --                       | --               | --        | --                                    | --                          | --                            | --                                      | 253                            |
| Peru               | 12,300     | --      | --                       | --               | 12,300    | --                                    | --                          | --                            | --                                      | (5/)                           |
| Philippines        | --         | --      | --                       | --               | --        | --                                    | --                          | --                            | --                                      | 8,310                          |
| Switzerland        | --         | --      | --                       | 139              | 139       | --                                    | 100                         | --                            | 17                                      | --                             |
| United Kingdom     | --         | --      | --                       | 2,450            | 2,450     | --                                    | --                          | 5 4/                          | 107 4/                                  | 523                            |
| Other              | --         | --      | --                       | --               | --        | --                                    | 56                          | --                            | 5 4/                                    | 161                            |
| Total              | 417,000    | --      | 182                      | 5,640            | 422,000   | 10,400                                | 249                         | 23                            | 22,800                                  | 46,500                         |
| Year to date       | 1,420,000  | 743     | 2,370                    | 32,200           | 1,460,000 | 52,200                                | 2,890                       | 23                            | 81,000                                  | 126,000                        |

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores and concentrates.

3/ Containing 99.5% or more by weight of silver.

4 All or part of these data have been referred to the U.S. Census Bureau for verification.

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.

TABLE 5  
U.S. EXPORTS OF SILVER 1/

(Kilograms of silver content, unless otherwise specified)

| Period and country | Bullion | Doré   | Ores and concentrates 2/ | Total   | Other unwrought silver (gross weight) | Metal powder (gross weight) | Silver nitrate (gross weight) | Semimanufactured form 3/ (gross weight) | Waste and scrap (gross weight) |
|--------------------|---------|--------|--------------------------|---------|---------------------------------------|-----------------------------|-------------------------------|---|--------------------------------|
| 2001               | 707,000 | 18,200 | 239,000                  | 963,000 | 48,800                                | 187,000                     | 143,000                       | 203,000                                 | 1,810,000                      |
| 2002:              |         |        |                          |         |                                       |                             |                               |   |                                |
| February           | 39,400  | 1,870  | 35                       | 41,300  | 2,430                                 | 16,400                      | 3,570                         | 11,900                                  | 211,000 r/                     |
| March              | 75,900  | 1,590  | 583                      | 78,100  | 5,330                                 | 17,400                      | 4,570                         | 19,500                                  | 226,000 r/                     |
| April:             |         |        |                          |         |                                       |                             |                               |   |                                |
| Armenia            | --      | --     | --                       | --      | 138 4/                                | --                          | --                            | 54                                      | --                             |
| Belgium            | --      | --     | --                       | --      | --                                    | 86                          | --                            | 40                                      | 27,100                         |
| Brazil             | --      | --     | --                       | --      | --                                    | --                          | --                            | 245                                     | --                             |
| Canada             | 691     | --     | --                       | 691     | 2,020 4/                              | 712                         | 6,410                         | 5,330                                   | 65,100                         |
| China              | --      | --     | --                       | --      | --                                    | --                          | --                            | --                                      | 16,200                         |
| Costa Rica         | --      | --     | --                       | --      | --                                    | --                          | --                            | --                                      | 294                            |
| Dominican Republic | --      | --     | --                       | --      | 12 4/                                 | --                          | --                            | 113                                     | --                             |
| France             | --      | --     | --                       | --      | --                                    | 758                         | --                            | 370 4/                                  | --                             |
| Germany            | --      | --     | --                       | --      | --                                    | 4,240                       | --                            | 176                                     | 3,220                          |
| Hong Kong          | --      | --     | --                       | --      | --                                    | 3,090                       | --                            | 934                                     | --                             |
| India              | --      | --     | --                       | --      | --                                    | 11 4/                       | --                            | 47                                      | 9,500                          |
| Italy              | --      | --     | --                       | --      | --                                    | 69                          | --                            | 142 4/                                  | 18,900                         |
| Japan              | --      | --     | --                       | --      | --                                    | 2,030                       | 7 4/                          | 4,100                                   | 1                              |
| Korea, Republic of | --      | --     | --                       | --      | 1,650                                 | 1,190                       | --                            | 2,010                                   | --                             |
| Mexico             | --      | --     | 17,900 4/                | 17,900  | 1,600                                 | 375                         | 940 4/                        | 1,200                                   | --                             |
| Netherlands        | --      | --     | --                       | --      | 7 4/                                  | 188                         | --                            | 300                                     | --                             |
| New Zealand        | --      | --     | --                       | --      | --                                    | --                          | --                            | 71                                      | --                             |
| Saudi Arabia       | --      | --     | --                       | --      | --                                    | --                          | --                            | --                                      | 2,660                          |
| Singapore          | --      | --     | --                       | --      | --                                    | 487                         | --                            | 284                                     | --                             |
| South Africa       | --      | --     | --                       | --      | --                                    | --                          | --                            | --                                      | 1,330                          |
| Spain              | --      | --     | --                       | --      | --                                    | --                          | --                            | 904                                     | --                             |
| Sweden             | --      | --     | --                       | --      | --                                    | 270                         | --                            | --                                      | 17,400                         |
| Switzerland        | --      | 2,100  | --                       | 2,100   | --                                    | 52                          | --                            | 55                                      | --                             |
| Taiwan             | --      | --     | --                       | --      | --                                    | 3,450                       | 162                           | 736                                     | --                             |
| United Kingdom     | 56,200  | --     | --                       | 56,200  | --                                    | 987                         | --                            | 794 4/                                  | 26,700                         |
| Other              | --      | --     | --                       | --      | 28 4/                                 | --                          | --                            | 97                                      | 91                             |
| Total              | 56,900  | 2,100  | 17,900                   | 76,900  | 5,460                                 | 18,000                      | 7,520                         | 18,000                                  | 188,000                        |
| Year to date       | 389,000 | 6,880  | 53,500                   | 449,000 | 20,900                                | 57,800                      | 21,700                        | 58,500                                  | 834,000                        |

r/ Revised. -- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores and concentrates.

3/ Semimanufactured (including silver plated with gold or platinum) forms of silver.

4/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 6  
U.S. IMPORTS FOR CONSUMPTION OF PLATINUM-GROUP METALS 1/

(Kilograms of metal content)

| Period and country | Platinum grain and nuggets | Platinum sponge | Other unwrought platinum | Platinum, other | Platinum waste and scrap | Platinum coins | Unwrought palladium | Palladium, other | Iridium 2/ | Unwrought osmium | Unwrought ruthenium | Rhodium 3/ |
|--------------------|----------------------------|-----------------|--------------------------|-----------------|--------------------------|----------------|---------------------|------------------|------------|------------------|---------------------|------------|
| 2001               | 2,480                      | 68,700          | 3,660                    | 5,330           | 3,960                    | 53             | 146,000             | 13,600           | 3,110      | 77               | 8,170               | 12,400     |
| 2002:              |                            |                 |                          |                 |                          |                |                     |                  |            |                  |                     |            |
| February           | 47                         | 5,610           | 218                      | 406             | 2,260                    | --             | 6,140               | 591              | 314        | --               | 1,020               | 411        |
| March              | 85                         | 5,280           | 143                      | 288             | 616                      | 12             | 6,740               | 841              | 224        | 3                | 943                 | 524        |
| April:             |                            |                 |                          |                 |                          |                |                     |                  |            |                  |                     |            |
| Argentina          | --                         | --              | --                       | --              | 1                        | --             | --                  | --               | --         | --               | --                  | --         |
| Belgium            | --                         | 483             | --                       | --              | --                       | --             | 364                 | 260              | --         | --               | --                  | 79         |
| Brazil             | --                         | --              | --                       | --              | 196                      | --             | --                  | --               | --         | --               | --                  | --         |
| Canada             | 7                          | --              | --                       | 49              | 138                      | 1              | 137                 | --               | --         | --               | --                  | --         |
| Chile              | --                         | --              | --                       | --              | 7                        | --             | --                  | --               | --         | --               | --                  | --         |
| China              | --                         | --              | --                       | --              | --                       | 2              | 250                 | --               | --         | --               | --                  | 4          |
| Colombia           | --                         | --              | 18                       | --              | (4/)                     | --             | --                  | --               | --         | --               | --                  | --         |
| France             | --                         | --              | --                       | --              | --                       | --             | --                  | 1                | --         | --               | --                  | --         |
| Germany            | 16                         | 250             | 26                       | 173             | 204                      | --             | 178                 | 467              | 6          | --               | 93                  | 19         |
| Hong Kong          | --                         | --              | 1                        | --              | --                       | --             | --                  | --               | --         | --               | --                  | --         |
| Israel             | --                         | --              | 48                       | --              | --                       | --             | --                  | --               | --         | --               | --                  | --         |
| Italy              | --                         | 33              | --                       | --              | --                       | --             | --                  | 11               | 1          | --               | --                  | --         |
| Japan              | --                         | --              | --                       | 281             | --                       | --             | 140                 | 42               | --         | --               | --                  | 1          |
| Korea, Republic of | --                         | --              | 133                      | --              | 12,600                   | --             | 3                   | --               | --         | --               | --                  | 15         |
| Malaysia           | --                         | --              | --                       | --              | (4/)                     | --             | --                  | --               | --         | --               | --                  | --         |
| Mexico             | --                         | --              | --                       | --              | (4/)                     | --             | --                  | --               | --         | --               | --                  | --         |
| Norway             | --                         | 16              | --                       | --              | --                       | --             | 665                 | --               | --         | --               | --                  | --         |
| Russia             | --                         | 310             | --                       | --              | --                       | --             | 8,340               | 65               | --         | --               | --                  | 557        |
| South Africa       | 124                        | 6,530           | 64                       | 12              | --                       | --             | 1,200               | 275              | 28         | --               | 1,680               | 261        |
| Spain              | --                         | --              | --                       | (4/)            | --                       | --             | --                  | --               | --         | --               | --                  | --         |
| Switzerland        | --                         | 60              | 3                        | 37              | --                       | --             | 156                 | 16               | --         | --               | 1                   | --         |
| Thailand           | --                         | --              | --                       | --              | 1                        | --             | --                  | --               | --         | --               | --                  | --         |
| United Kingdom     | 39                         | 2,040           | 39                       | 42              | 44                       | --             | 880                 | 1 5/             | 78 5/      | --               | 36                  | 25         |
| Venezuela          | --                         | --              | (4/)                     | --              | --                       | --             | --                  | --               | --         | --               | --                  | --         |
| Total              | 187                        | 9,720           | 331                      | 595             | 13,200                   | 2              | 12,300              | 1,140            | 113        | --               | 1,810               | 959        |
| Year to date       | 383                        | 25,300          | 1,170                    | 1,630           | 16,700                   | 14             | 29,700              | 2,940            | 785        | 3                | 4,650               | 2,640      |

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Unwrought and other forms of iridium.

3/ Unwrought and other forms of rhodium.

4/ Less than 1/2 unit.

5/ All or part of these data have been referred to the U.S. Census Bureau for verification.

Source: U.S. Census Bureau.

TABLE 7  
U.S. EXPORTS OF PLATINUM-GROUP METALS 1/

(Kilograms of metal content, unless otherwise specified)

| Period and country   | Palladium 2/ | Platinum 2/ | Platinum waste and scrap | Iridium, osmium and ruthenium 2/ 3/ | Rhodium 2/ |
|----------------------|--------------|-------------|--------------------------|-------------------------------------|------------|
| 2001                 | 37,000       | 29,300      | 12,900                   | 1,370                               | 982        |
| 2002:                |              |             |                          |                                     |            |
| February             | 2,530        | 1,950       | 498                      | 104                                 | 9          |
| March                | 2,840        | 2,240       | 513                      | 128                                 | 28         |
| April:               |              |             |                          |                                     |            |
| Australia            | 22           | 1           | --                       | --                                  | --         |
| Austria              | 3 4/         | 2           | --                       | --                                  | --         |
| Belgium              | 3            | 1           | 5                        | --                                  | --         |
| Canada               | 495          | 217         | 147                      | 4                                   | (5/) 4/    |
| China                | 35           | --          | --                       | (5/) 4/                             | --         |
| Costa Rica           | 2            | --          | --                       | --                                  | --         |
| Denmark              | 12 4/        | 3 4/        | --                       | --                                  | --         |
| Finland              | 8 4/         | 1           | --                       | --                                  | --         |
| France               | 36 4/        | 17 4/       | --                       | --                                  | --         |
| Germany              | 67 4/        | 625 4/      | 18                       | 10                                  | --         |
| Haiti                | 2 4/         | --          | --                       | --                                  | --         |
| Hong Kong            | 41 4/        | 2           | (5/)                     | 1                                   | 1 4/       |
| Iceland              | 2            | --          | --                       | --                                  | --         |
| Ireland              | --           | 12 4/       | --                       | 38                                  | --         |
| Israel               | 4            | --          | --                       | --                                  | (5/) 4/    |
| Italy                | 5 4/         | --          | --                       | --                                  | --         |
| Japan                | 186 4/       | 325         | 105                      | --                                  | 15 4/      |
| Korea, Republic of   | 4 4/         | 5 4/        | --                       | --                                  | --         |
| Luxembourg           | 10 4/        | --          | --                       | --                                  | --         |
| Malaysia             | --           | (5/) 4/     | --                       | --                                  | --         |
| Mexico               | 21 4/        | 11 4/       | 1                        | --                                  | (5/) 4/    |
| Netherlands          | 10           | 11 4/       | --                       | --                                  | --         |
| New Zealand          | 2            | --          | --                       | --                                  | --         |
| Philippines          | 6            | --          | --                       | --                                  | --         |
| Saudi Arabia         | --           | 2           | --                       | --                                  | --         |
| Singapore            | 5 4/         | 4           | --                       | --                                  | (5/) 4/    |
| Sweden               | --           | 1           | --                       | --                                  | --         |
| Switzerland          | 8,770        | 566         | --                       | --                                  | --         |
| Taiwan               | 337 4/       | 5           | --                       | 4                                   | --         |
| Thailand             | 5 4/         | 4           | --                       | --                                  | --         |
| Turkey               | (5/)         | --          | --                       | --                                  | --         |
| United Arab Emirates | --           | --          | --                       | --                                  | (5/) 4/    |
| United Kingdom       | 128          | 699 4/      | 215                      | 22                                  | 1 4/       |
| Total                | 10,200       | 2,510       | 491                      | 78                                  | 17         |
| Year to date         | 19,000       | 8,550       | 2,230                    | 423                                 | 77         |

-- Zero.

1/ Data are rounded to no more than three significant digits; may not add to totals shown.

2/ Unwrought and other forms.

3/ Gross weight.

4/ All or part of these data have been referred to the U.S. Census Bureau for verification.

5/ Less than 1/2 unit.

Source: U.S. Census Bureau.